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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,814	09/27/2000	Kaname Kono	029493/0138	5929

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[REDACTED] EXAMINER

WESSMAN, ANDREW E

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

1742

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DATE MAILED: 12/31/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-4

Office Action Summary

Application No.

09/671,814

Applicant(s)

KONO, KANAME

Examiner

Andrew E Wessman

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) Interview Summary (PTO-413) Paper No(s) _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

1. Claims 1-5 have been submitted for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what applicant means by "a surface feature of sufficient definition" in claim 1. "Sufficient definition" is not precisely defined in the specification and it is unclear what would be required of a surface feature in order that it have "sufficient definition".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kalpakjian textbook.

This textbook discusses (pages 261-266) various casting operations. One type of casting operation discussed is die casting, which is similar to the process disclosed in claim 1, as both processes essentially involve the injection of molten metal under

pressure into a mold. Other casting operations discussed in the textbook are squeeze casting and semisolid metal forming, which are both more specific types of die casting operations and are also similar processes to the process disclosed in claim 1 (see page 265, paragraph 3). The textbook does not detail the steps of drawing the molten metal from a first chamber to a second chamber, and then injecting the molten metal into the die from the second chamber. However, it is well understood that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. In Re Thorpe, 777 F2d. 695, 227 USPQ 964 (Fed. Cir. 1985). In this case, because the die casting processes of the textbook would be similar to the claimed process, therefore the products of the textbook would have been expected to possess similar properties as claimed, which includes good dimensional accuracy and surface details, so that parts require little or no subsequent machining or finishing operations (see page 263, paragraph 2).

The features of claims 2, 3, and 4 would have been obvious to one of ordinary skill in the art because the die casting processes of the textbook are capable of making a molded metal article having good dimensional accuracy and surface details, which includes engraving or protruding surface features, and also continuous surface features. The feature of claim 5, wherein the part is made of magnesium, would have been obvious in view of table 5.7 on page 263 of the textbook, which discloses the use of magnesium for die cast products.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as obvious over Marder et al.

Marder et al. teaches a process for molding metal using modified extrusion or die casting equipment, similar to that used for injection molding plastic (col. 6, lines 9-12). Marder et al. teaches that such a process would be used for semi-solid processing to produce net shape molded metal parts (col. 5 line 67 to col. 6, line 1).

In regards to the features of claim 1, molded metal parts made by a net shape forming process of Marder et al. would have been expected to be similar to the claimed molded metal parts which require little or no further processing to obtain good surface features, because Marder et al.'s process is similar to the claimed process (In Re Thorpe).

In regards to the features of claims 2 and 3, surface features which are an engraving or a protrusion would have been expected to be produced by the Marder et al. process, because Marder et al.'s process is capable of making molded metal parts having good dimensional control and good surface features.

In regards to the feature of claim 4, it would have been within the expected ability of one of ordinary skill in the art to make surface features in a molding process continuous as such surface features are made by patterns in the mold or die, and such patterns could be made either continuous or discontinuous depending on the desired surface feature.

In regards to the feature of claim 5, Marder et al. teaches magnesium alloys and means of forming them (see abstract).

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew E Wessman whose telephone number is (703)305-3163. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703)308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

RK
ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

AEW
December 20, 2001